

REMARKS

In view of the above amendment, Applicants believe the pending application is in condition for allowance.

Claims 1, 2, 4-8, 10-12, 15-18, and 20-25 are now present in this application. Claims 1, 7, 12, 18 and 24 are independent. By this Amendment, claims 1 and 4 have been amended, and claims 24 and 25 have been added.

Reconsideration of this application, as amended, is respectfully requested.

Information Disclosure Citation

Applicants thank the Examiner for considering the references supplied with the Information Disclosure Statement filed July 23, 2007, and for providing Applicants with an initialed copy of the PTO-SB08 form filed therewith.

Applicants respectfully submit that two additional IDSs were submitted since the issuance of the present Office Action, and initialed copies thereof are respectfully requested from the Examiner in the next response from the U.S. Patent Office.

Rejections under 35 U.S.C. §103

Claims 1 and 2 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hockh in view of either Fraraccio or Koblenzer. Further, claims 4-6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hockh in view of Pickering. These rejections are respectfully traversed.

Complete discussions of the Examiner's rejections are set forth in the Office Action, and are not being repeated here.

While not conceding the appropriateness of the Examiner's rejection, but merely to advance prosecution of the instant application, Applicants respectfully submit that independent claim 1 has been amended to recite a combination of elements in a drum type washing machine including, *inter alia*, "a vapor generator installed in the cabinet to generate vapor", "a circulation pump installed in the cabinet to circulate wash water drained from the drum", and "a diverging pipe installed at an upper side of the drum for supplying vapor generated from the vapor generator and wash water circulated from the circulation pump to inside of the drum." Applicants respectfully submit

that this combination of elements as set forth in independent claim 1 is not disclosed or made obvious by the prior art of record, including Hockh, Fraraccio, and Koblenzer.

The Examiner states that Hockh discloses a circulation pump 84 installed between the second connection and the drain pipe for circulating wash water drained from the drum. Applicants assume that the Office Action should state pump 64.

Applicants respectfully submit that the present invention, as defined by claim 1, requires a diverging pipe installed at an upper side of the drum to supply vapor generated from the vapor generator and wash water circulated from the circulation pump to the inside of the drum. The diverging pipe is connected with a first connection hose to supply the vapor and is connected with the second connection hose to supply the circulated water. Therefore, it is possible to supply the vapor and the circulated water concurrently or sequentially through the diverging pipe

In contrast, the pump 64 of Hockh is connected with the pipe 84 through boiler 82. As a result, the pipe 84 of Hockh can only be used to supply steam into the drum 16 and not circulated wash water.

The other references cited by the Examiner were relied on for teachings unrelated to the above deficiency. Accordingly, even if it were obvious to combine Hockh in view of either Fraraccio or Koblenzer, the hypothetical combination would fail to show all claimed features. Accordingly, independent claim 1 is allowable over the cited references. Because claim 2 depends from claim 1, it is also allowable for at least the same reasons that claim 1 is allowable.

With regard to the rejection of claims 4-6, while not conceding the appropriateness of the Examiner's rejection, but merely to advance prosecution of the instant application, Applicants respectfully submit that claim 4 has been amended to depend from allowed claim 18, thereby automatically placing claim 4 into condition for allowance, along with claims 5 and 6.

Allowable Subject Matter

Applicants thank the Examiner for the indicating that claims 7, 8, 10-13, 15-18, and 20-23 are allowed.

Claims 24 and 25

Claims 24 and 25 have been added for the Examiner's consideration.

Independent claim 24 recites a combination of elements in a vapor generator of a drum washing machine including "a case having a space portion to store water therein, a water supplying portion to supply water, and a vapor exhaustion portion to exhaust vapor", "a heater installed in the case to heat water stored in the case", and "a water level detecting sensor installed in the case to detect a level of water stored in the case", and "wherein the case includes a lower case where the heater is installed and an upper case coupled to the lower case by one of a heat bonding and a supersonic bonding."

Applicants respectfully submit that this combination of elements as set forth in independent claim 24 is not disclosed or made obvious by the prior art of record.

Generally, it is desirable that a vapor generator for a drum type washing machine be formed of cost effective and low weight material, such as synthetic resins or other plastic materials. However, in such situations, it is desirable to protect against overheating to avoid damaging the vapor generator, including the case of the vapor generator. In addition, overheating could affect the tightness of the assembled components, such as between an upper and lower case of the vapor generator. Ultimately, damage to the vapor generator can lead to damage of other parts of the drum type washing machine.

As a result, the present invention protects the case of the vapor generator against the risk of melting by reducing the risk that the heater is not fully covered by a minimum level of water. One means of assisting in reducing the risk of melting is in placing the heater in the lower case. In addition, the heat bonding or supersonic bonding provides a connection which is very heat resistant and allows for faster manufacturing processes. Finally, as provided for in claim 25, the water level sensor also reduces the chances of damage by detecting a water supply time point and an on/off point for the heater.

Particularly, none of the references cited by the Examiner disclose a case for a vapor generator where the upper case and the lower case are coupled to each other by heat bonding or supersonic bonding. Furthermore, there is no teaching of a water level detecting sensor configured

to not only detect a water supply time point, but also an on/off time point for the heater as set forth in dependent claim 25.

Consideration and allowance of claims 24 and 25 are respectfully requested.

Additional Cited References

Since the remaining references cited by the Examiner have not been utilized to reject the claims, but have merely been cited to show the state of the art, no comment need be made with respect thereto.

CONCLUSION

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone James T. Eller, Jr., Registration No. 39,538, at (703) 205-8000, in the Washington, D.C. area.

Prompt and favorable consideration of this Amendment is respectfully requested.

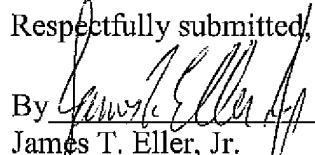
Application No. 10/752,005
Amendment dated January 11, 2008
Reply to Office Action of October 11, 2007

Docket No.: 0465-1784PUS1
Page 12

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Dated: January 11, 2008

Respectfully submitted,

By 
James T. Eller, Jr.

Registration No.: 39,538

BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicants

CDW